Technical Methods WRMP24: Growth Forecasting

Project:	Growth Forecasting	**To:**	WRSE Demand Forecasting
Subject:	Production of the population and property growth forecasts for WRSE	**Created by:**	Ross Henderson
Purpose:	For review	**Version, Date:**	Version 1, 22 July

1. Summary

The purpose of this document is to invite bids for the production of the population and property growth forecasts for the Water Resources in the South East (WRSE) of England alliance.

Housing and demographic statistics are key components of the Water Resources Planning Guidelines (WRPG) issued by Defra and the Environment Agency for the development of Water Resources Management Plans (WRMPs), enabling the production of water demand forecasts which enable allow us to understand the future need for water.

Understanding how housing growth and demographic change, across 121 local planning authorities, will affect the future provision of water services across the WRSE region is a critical element of the water resources planning process. This piece of work is intended to inform water demand forecasting which is required to produce a Statement of Regional Resource Position (SRRP).

The successful candidate will produce forecasts of population and properties for the entire WRSE region for the period 2019 to 2100 at the Water Resource Zone (WRZ) level with locations of development sites earmarked for future development by the local authorities.

2. Introduction

The WRSE is an alliance of the six south east water companies, the Environment Agency, Ofwat, Consumer Council for Water, Natural England and Defra, which aims to develop long term plans for securing water supplies in the south east. The water companies are:

- Affinity Water
- Portsmouth Water
- SES Water

- South East Water
- Southern Water
- Thames Water.

These companies currently supply water to approximately 19 million people across 37 WRZs which have some, but limited transfer capability, as shown in the figure below.

WRSE aims to develop an affordable, sustainable and resilient regional approach to water resource management: one that delivers for customers, society and the environment. To help meet our regional

challenges we require a robust regional approach to managing this precious resource, ignoring company boundaries.

3. Need for updated forecasts

The six WRSE companies deliver a reliable supply of high quality drinking water to almost 19 million customers in the most densely populated area of the United Kingdom.

Robust population and property forecasts are a key underpinning component of the demand forecasting process. A sustained period of new housing growth, ageing population profiles and uncertainty around future levels of international migration are key considerations for industry planners.

The WRPG includes guidance on the key requirements for population, property and occupancy forecasts to support the WRMP.

The Government has set out ambitions for the delivery of one million new homes and one million new jobs in an area designated the Oxford to Cambridge Growth Arc, which includes the northern parts of the WRSE region. Estimates of potential impacts on population and property growth will be required per WRZ based on information in the public domain and that provided by WRSE.

4. Scope of Work

The scope of the work is to produce a growth forecast for the WRSE area in a digital format which is suitable for the member companies to use. It is anticipated that this work will comprise of:

- Collection, review and processing of local plan evidence from across all water company areas that are part of the WRSE
- Direct engagement with local authorities where information is not available
- Collection, review and processing of evidence from other official sources, e.g. Oxfordshire 2050 joint strategic spatial plan
- For any periods beyond the horizon of the relevant local authority plan, or other official sources, future growth should be extrapolated using information from Office for National Statistics.

Forecast outputs are to include annual estimates of:

- Total Population
- Household properties
- Household population
- Population not in households
- Average household size
- Properties
- Void properties
- Levels of uncertainty around the central estimates provided – e.g. P50, P70, P90

The above information will be reported at both Census Output Area (COA) and WRZ levels at a minimum, with annual values for each year to 2100. An important aspect of this work is to avoid the double counting of growth with other regions and therefore you should set out how information will be presented so that double counting can be avoided or easily identified between regions.

For each local authority the following information is will be required for each WRSE member:

- Local plan status
- Data collected
- Local authority level view of growth
- WRZs which fall either fully or partly within the local authority
- Percentage of local authority area which falls within each WRZ
- Site level data for planned developments and phasing

Information for local authorities will be available as excel outputs and in a digital GIS format where available. The successful bidder should plan to make information available in a format that individual companies are easily able to access and manipulate data into their own preferred formats.

The following data is also required and should be priced individually:

- Population and property impacts for the Oxford to Cambridge growth arc. This will require the successful bidder to identify relevant data sources and utilise any information provided by water companies.

- Estimates for seasonal population[1] should also be provided for each WRZ

- Non household property growth forecasts

- Trend based population and property growth

- A hybrid trend/planed based property forecast

- Econometric forecast

- Costs for maintaining this data set with updated information on an annual basis

The successful bid is required to allow individual water companies to require additional information or analysis for their own requirements in addition to the scope set out here e.g. providing growth forecast at wastewater catchment level for companies that provide both water and wastewater services. Where this is the case the water company shall engage directly with the successful bidder and agree the scope and the company requesting shall be solely responsible for any additional cost incurred.

5.   Timescales

A timescale for the production of the next WRSE regional plan is still evolving but it is anticipated that the next regional plan will be produced by August 2021. A statement of regional resource position (SRRP) is required in September 2020.

To achieve this and leave sufficient time to produce updated demand forecasts, population and property forecasts will be required in April 2020. Therefore, the timescale for this aspect of the work: growth forecasts, is as follows:

a) Scope tender sent out on the 29 July;

b) Tenders received for the review and recommendation of the modelling approach by the 23 August;

c) Award by the 5 September;

d) Population and property forecasts by 31 April 2020.

This tender will be evaluated on both quality and cost. A maximum of 70 marks will be awarded for quality and 30 marks for cost.

The quality aspect will be made up of 60 marks based on: previous experience of this type of work (company, staff, performance); project understanding and proposal; and deliverables. A further 10 marks can be awarded for the presentation, if the bidder makes it through to this stage.

The cost aspect will be made up of 30 marks which will be awarded based on cost and value of the bid.

Each company and a WRSE subject matter expert will evaluate the tender and individually assess them. At this point the maximum score that could be awarded is 90 marks (60+30). The top three bidders will be asked to present an overview of their proposal and the key assumptions (10 mins). The interview panel will then ask a series of questions (35 mins) about the proposed approach. At the end of the presentations each member of the panel will mark the presentation individually. On completion of all the interviews the scores of the interviews will be combined with the bidders previous scores. Whichever bidder has the highest score at the end of the process will then be awarded the contract.

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[1] Season population description to go here

6.   Invitation:

You are invited to send in your bid for this work by midnight on the 23 August to:
meyrick.gough@wrse.org.uk

1)   a description of the work you are proposing to undertake;
2)   the staff you will use;
3)   the cost for the proposed work;
4)   Any required support/information from water companies
5)   a timeline for completing the work, with associated contingencies and risk mitigation measures; and a
6)   quality assurance plan

The final methodology report to WRSE must set out:

1)   A detailed description of methods used;
2)   A log of engagement undertaken with Local Authorities, regional and Governmental organisations;
3)   List of all data sources used and their official status;
4)   A trend, planed, econometric and central (hybrid) forecast for population, properties, households at WRZ, company and regional level
5)   Any variant forecasts agreed
6)   Description of the digital data files handed over to companies for their forecasts
7)   A data quality assurance statement regarding the data used in the project.